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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/733,678	12/11/2003	Jung-Hyun Kim	8045-45 (PX1601-US/SSD)	8949
22150 7590 04/23/2008 F. CHAU & ASSOCIATES, LLC 130 WOODBURY ROAD WOODBURY, NY 11797			EXAMINER CHRISS, ANDREW W	
			ART UNIT 2619	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/733,678	Applicant(s) KIM, JUNG-HYUN	
	Examiner Andrew Chriss	Art Unit 2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March 11, 2008 has been entered.

Response to Amendment

2. Applicant's amendment, filed March 11, 2008, has been entered and carefully considered.

3. In light of Applicant's amendment to Claims 1, 11, 21, 23, and 24, rejection of said claims 1-24 under 35 U.S.C. 103(a) as being unpatentable over Milway in view of Ganesh is withdrawn.

Claim Objections

4. **Claims 1, 11, 21, 23, and 24** objected to because of the following informalities: Claim language "the one output port being the only destination port *for the table*" is awkward and should be revised. Examiner suggests alternate wording such as "the one output port being the only destination port *identified in the table*" or similar phrasing. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. **Claims 1, 11, 21, 23, and 24** rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claim language cites “the one output port being the only destination port for the table.” However, Applicant’s specification describes a switching operation for multicast packets or cells, wherein “one input port can be simultaneously connected with multiple output ports based on the multicast identifier. The multicast identifier appears in the lookup tables corresponding to those output ports to which the identifier is directed” (page 11, lines 10-14). Further, the lookup tables shown in Figures 5 and 6 depict lookup tables for each output port, wherein the lookup tables comprise inbound identifiers corresponding to input ports and outbound identifiers corresponding to output ports (Figures 5 and 6, tables 60-63). As stated in Applicant’s specification, “the identifier 15 appears in lookup tables 60 and 61 corresponding to first *and* second output ports” (emphasis added) (page 11, lines 14-16). Therefore, the newly added claim limitation that one output port is the *only* destination port for the table constitutes new matter (emphasis added).

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. **Claims 1-24** rejected under 35 U.S.C. 103(a) as being unpatentable over Milway (United States Patent 6,122,279) in view of Takatori et al (United States Patent 5,473,598), hereinafter Takatori. Applicant claims a method of switching packets and a method of switching cells. For purposes of examination, Examiner asserts that prior art teaching a method of switching cells also teaches a method of switching packets.

Regarding Claims 1, 11, and 23, Milway teaches a method of switching cells (and thereby, packets) by a switch controller (column 11, lines 8-9). Milway teaches storing a plurality of input port designations in a routing table, by reading the port's identifying number, which corresponds to at least one input port, within the cell header (column 4, lines 27-29). Milway also teaches hashing a routing identifier (equivalent to Applicant's claimed packet/cell identifier), in combination with the port's identifying number (equivalent to Applicant's input port designation) to place in the routing table, thus storing a plurality of packet/cell identifiers being stored in each routing table (column 4, line 26). Milway further teaches that ports contain received cells in their buffers, thus having inputted at least one packet into an input port of the plurality of input ports (column 4, lines 20-22). Control logic in all ports will read the old header and routing tag simultaneously with the switch controller (column 4, lines 32-34), thus locating a packet/cell identifier from the plurality of packet/cell identifiers stored in each table that matches the packet/cell identifier of the at least one packet. Lastly, Milway teaches that the routing tag specifies which output ports should receive the cell (column 4, lines 31-32). In order to connect an input port with the one or more output ports, Milway teaches that the switch controller issues

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a cell copy command causing the input port to place the information payload of the current cell onto the switch bus where it will be read by the selected output ports (column 4, lines 35-39).

However, Milway may not disclose a plurality of tables, each of which corresponds to one output port of a plurality of output ports, the one output port being the only destination port for the table. In the same field of endeavor, Takatori discloses an ATM switch comprising multiple routing tables (Figure 1, 5-1 – 5-4), wherein each routing table stores different routing information (column 3, lines 10-17), and further wherein each of the plurality of routing tables indicates an output port of *an* ATM switch (column 4, lines 62-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the plurality of routing tables disclosed in Takatori with the switching device disclosed in Milway in order to perform switching of routing tables and VPI/VCI conversion tables without causing an interrupt in the event that a routing request of an incoming cell does not match stored routing information.

Regarding Claims 2 and 12, Milway further teaches that the switch controller reads a routing identifier (packet/cell identifier) with the input port's identifying number (column 13, lines 19-25), thus having the packet/cell identifier stored in each table identifying an input port of the plurality of input ports.

Regarding Claims 3 and 13, Milway further teaches the packet/cell identifier stored in the routing table contains Route Words and corresponding New Header Words for each output port 210 (column 19, lines 40-42), thus having a packet/cell identifier stored in the routing table that identifies an output port in the plurality of output ports.

Regarding Claims 4 and 14, Milway further teaches that the switch controller reads a routing identifier (packet/cell identifier) with the port's identifying number (column 4, line 26),

thus having the packet/cell identifier stored in each table identifies an input port of the plurality of input ports.

Regarding Claims 5 and 15, Milway further teaches the packet/cell identifier stored in the routing table contains Route Words and corresponding New Header Words for each output port 210 (column 19, lines 40-42), thus having the packet/cell identifier identifying an output port of the plurality of ports.

Regarding Claims 6 and 16, Milway further teaches a multicast switching operation wherein “the Route Word 540 read after the first hashing operation has been performed will have its SWITCH COMMAND field 870 set to Indirect...The Indirect command indicates to switch controller 120 that the subsequent word is not a typical New Header Word 550 containing an ATM cell header, but rather an index to an auxiliary portion of routing table 720 which contains the Route Words 540 and corresponding New Header Words 550 for each output port 210-j involved in the current multicast transmission” (column 19, lines 34-47). Thus, the packet/cell identifier, which is stored in routing table 720, identifies a multicast packet.

Regarding Claims 7 and 17, see rejection of Claims 6 and 16 above.

Regarding Claims 8 and 18, Milway further teaches that the routing table 720 is stored in DRAM memory (column 13, lines 45-46), which is a type of semiconductor memory, as cited in Applicant’s specification (page 9, line 24 – page 10, line 1).

Regarding Claims 9 and 19, Milway further teaches storing the cell identifier and the input port designation together as one datum (a routing index), shown in Figures 6A and 6B.

Regarding Claims 10 and 20, Milway further teaches the packet/cell identifier stored in the routing table contains Route Words and corresponding New Header Words for each output

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port 210 (column 19, lines 40-42). Milway also teaches control logic in all ports read the old header and routing tag simultaneously with the switch controller (column 4, lines 32-34), thus determining an output port based on each table storing the located packet identifier.

Regarding Claim 21, Milway teaches a switching apparatus comprising a plurality of input ports (Figure 1, 150-1); a plurality of output ports (column 4, line 34); a plurality of routing tables (column 4, lines 7-8), which store a plurality of routing identifiers (equivalent to Applicant's claimed packet/cell identifier) and port identifying number (equivalent to Applicant's input port designation) (column 4, line 26), and a switch controller 120 (equivalent to Applicant's claimed switching control unit), which issues a cell copy command causing the input port to place the information payload of the current cell onto the switch bus where it will be read by the selected output ports (column 4, lines 35-39). However, Milway may not disclose a plurality of tables, each of which corresponds to one output port of a plurality of output ports, the one output port being the only destination port for the table. In the same field of endeavor, Takatori discloses an ATM switch comprising multiple routing tables (Figure 1, 5-1 – 5-4), wherein each routing table stores different routing information (column 3, lines 10-17), and further wherein each of the plurality of routing tables indicates an output port of *an* ATM switch (column 4, lines 62-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the plurality of routing tables disclosed in Takatori with the switching device disclosed in Milway in order to perform switching of routing tables and VPI/VCI conversion tables without causing an interrupt in the event that a routing request of an incoming cell does not match stored routing information.

Regarding Claim 22, Milway teaches a switch controller that issues a cell copy command causing the input port to place the information payload of the current cell onto the switch bus where it will be read by the selected output ports (column 4, lines 35-39), thus connecting the input port corresponding to the input port designation stored with the packet identifier of the at least one packet with the at least one output port.

Regarding Claim 24, Milway teaches a switching device for switching ATM cells (packets) (column 4, lines 2-3), which is a program storage device, containing system software (column 4, line 9) to execute the claimed method (see rejection of Claims 1, 11, and 23 above). However, Milway may not disclose a plurality of tables, each of which corresponds to one output port of a plurality of output ports, the one output port being the only destination port for the table. In the same field of endeavor, Takatori discloses an ATM switch comprising multiple routing tables (Figure 1, 5-1 – 5-4), wherein each routing table stores different routing information (column 3, lines 10-17), and further wherein each of the plurality of routing tables indicates an output port of *an* ATM switch (column 4, lines 62-63). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the plurality of routing tables disclosed in Takatori with the switching device disclosed in Milway in order to perform switching of routing tables and VPI/VCI conversion tables without causing an interrupt in the event that a routing request of an incoming cell does not match stored routing information.

Response to Arguments

9. Applicant's arguments with respect to claims 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Chriss whose telephone number is (571)272-1774. The examiner can normally be reached on Monday - Friday, 7:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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